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ABSTRACT

This practicum concentrated on the need for a social studies critical thinking continuum in the middle school. An oral interview with personnel in one Florida school district's Social Studies Program Development Department revealed that a critical thinking continuum did not exist. A review of the literature on critical thinking indicated that many people in the field supported the inclusion of these skills in the curriculum. The study's goals were: (1) to extend and enrich the methodology of teaching social studies; (2) to expose students to techniques in applying critical thinking skills; and (3) to create a program that would blend with, not eliminate, the social studies curriculum. The study involved: (1) distributing a curriculum analysis survey to 40 middle school social studies teachers; (2) developing appropriate lesson plans that were correlated to the Florida State Department of Education's Uniform Student Performance Standards; (3) meeting with eight middle school principals to gain their support and acceptance of the program; (4) conducting a 10-hour workshop for teachers and department chairpersons; (5) providing procedures, lesson plans, data collection forms, methodologies, and practice in designing instructional strategies; (6) conducting follow-up visitations to observe and provide assistance; (7) supervising and maintaining the program; and (8) developing and administering an evaluation component. The results of the program were positive. An analysis of the program revealed that students with the ability to apply thinking skills do show an improvement in their performance. More than 63 percent of the students met the criteria for success when the scores of a pretest-posttest questionnaire were compared. Teachers, department chairpersons, and principals rated the program as desirable and appropriate and recommended that it be expanded. Charts, figures, tables, and 33 references, along with 12 appendices that contain various questionnaires and survey instruments, are included. (Author/JHP)

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Implementing a Social Studies Critical Thinking Curriculum to Improve the Performance of Middle School Students

by

STANLEY D. ANDERSON

Cluster XXII

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A Practicum II Report Presented to the Ed.D. Program
in Early and Middle Childhood
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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PRACTICUM APPROVAL SHEET

This practicum took place as described.

Verifier: Virgil L. Morgan

Virgil L. Morgan

North Area Superintendent
Title

Fort Lauderdale, Florida

July 14, 1988
Date

This practicum report was submitted by Stanley D. Anderson under the direction of the adviser listed below. It was submitted to the Ed.D. Program in Early and Middle Childhood and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

Approved:

Oct. 1, 1988
Date of Final Approval of Report

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ABSTRACT

Implementating a Social Studies Critical Thinking Curriculum to Improve the Performance of Middle School Students. Anderson, Stanley D., 1988: Practicum Report, Nova University, Ed.D. Program in Early and Middle Childhood. Descriptors: Academic Achievement/Creative Thinking/Critical Thinking/Continuum/Curriculum/Knowledge/Middle School Education/Problem Solving/Student Performance/Social Studies.

This practicum concentrated on the need for a social studies critical thinking continuum in the middle school. An oral interview with personnel in the Social Studies Program Development Department revealed that a critical thinking continuum did not exist. A review of the literature indicated that many people in the field of critical thinking support the inclusion of these skills in the curriculum. The writer's goals were (a) to extend and enrich the methodology of teaching social studies, (b) to expose students to techniques in applying critical thinking skills, and (c) to create a program that would blend with, not eliminate, the social studies curriculum.

The writer (a) distributed a curriculum analysis survey to 40 middle school social studies teachers, (b) developed appropriate lesson plans that were correlated to the State Department of Education's Uniform Student Performance Standards, (c) met with 8 middle school principles to gain their support and acceptance of the program, (d) conducted a 10 hour workshop for the teachers and department chairpersons, (e) provided procedures, lesson plans, data collection forms, methodologies, and practice in designing instructional strategies, (f) conducted follow-up visitations to observe and provide assistance, (g) supervised and maintained the program, and (h) developed and administered an evaluation component.

The results of the program were positive. An analysis of the program revealed that students with the ability to apply thinking skills do show an improvement in their performance. More than 63% of the students met the criteria for success when the scores of a pretest-posttest questionnaire were compared. The teachers, department chairpersons, and principals rated the program as desirable, appropriate, and that it should be expanded. The State Department of Education approved a grant to fund the program for 1 year.

Chapter I

INTRODUCTION

Description of the Community

The community can best be described as a metropolitan area having a population of 1.2 million people. There is a large segment of retirees in the area, but the families with school-age children bring to the school system an estimated 135,000 pupils for the 1987-1988 school year. Consequently, it is considered to be the county's largest employer with about 13,700 permanent employees, and operates on a budget close to $8 million. During the school year of 1986-1987 there was an estimated expenditure of $2,850 per student.

The school district, located in the southeastern part of the United States, describes itself as having the largest fully accredited public school system in the nation. To provide effective management it was necessary to divide the school district into three distinct areas, the North, Central, and South areas respectively. Each area has an Associate School Superintendent who reports directly to the County Superintendent of Schools.

The area superintendents have at their disposal a cadre of personnel to provide various support services such as,

curriculum, psychological, exceptional education, student programming, and teachers of which there are more than 7,250 across the county.

Each area superintendent operates independently of the other two, however, all of them are obliged to follow the county and state directives, policies, rules, and regulations that govern the public education process.

There was 24 fully certified social studies teachers representing 8 middle schools, 3 in each school, that participated in this activity. The students assigned to these teachers were generated from grades 6, 7, and 8. Each teacher was responsible for about 150 students, thereby, providing the activity with an involvement of 3,600 pupils.

The socio-economic strata of the student population ranges from very wealthy to poverty stricken, and their grade placements were based upon normal procedures, which gave this activity a natural environment to test its validity.

Because the school district is so large, the task of coordinating staff development scheduling and the data collection activity was delegated to each social studies department chairperson. Their involvement enhanced the

activity by fostering effective assistance for the social studies teachers of the pilot schools.

Author's Work Setting and Role

As the North Area Social Studies Curriculum Specialist, the author has the responsibility of providing social studies teachers in grades K-12 with assistance in following and delivering the prescribed social studies curriculum. This is accomplished through school visitations to insure compliance with county curriculum directives; conducting staff development programs to enhance teaching strategies, classroom management, and student skills; and lastly, developing programs that will meet individual school needs. The curriculum specialist does not evaluate teachers on their performance, although suggestions and recommendations are offered and generally accepted. In other words, the curriculum specialist serves as a resource person for school administrators, teachers, and the students.

Chapter II

STUDY OF THE PROBLEM

Problem Description

The scope and sequence of the school district social studies curriculum complies with the state requirements, by establishing program objectives and skill development activities in the content area at each grade level.

Students, however, demonstrated a weakness in applying higher order thinking skills on standardized tests and teacher-made tests. The test results indicated that this deficiency was a wide-spread problem across the county, and not localized in one area or one school.

A closer look at the curriculum revealed that the skills to be developed were expressed in such vague terms as define, understand, appreciate, and recognize. The curriculum appeared to be more knowledge or information oriented than providing for the integration of thinking skills to improve concept development.

Briefly stated then, the problem was that the social studies program was lacking a content oriented critical thinking skills continuum, this resulted in objectives being inappropriately placed in the curriculum, teachers being hindered in the teaching of specific thinking skills, and students demonstrating their inability to perform complex

thinking processes.

Problem Documentation

To determine if a critical thinking continuum existed within the county social studies curriculum, an oral interview was conducted with 10 people assigned to the Social Studies Program Development Department. A questionnaire was used that required "Yes", "No", or "I Don't Know" answers (see Appendix A).

The responses as shown on Table 1 reveal that a critical thinking continuum, per se, was not available to the school district. It was interesting to note that in item 1 of the survey, all of the interviewees indicated that a list of major thinking skills to be taught with the middle school social studies program was available. Since the purpose of the survey was to determine the existance of a critical thinking continuum, not why there isn't one in the schools, no further probing was done in that area.

Seven of the personnel that were interviewed had been assigned to that department for more than 3 years, whereas, 3 were newly assigned within the previous 6 months. This accounts for the "I Don't Know" answers.

Table 1

Distribution of Responses

Social Studies Program Department Survey

Item	Yes	No	I Don't Know
1	10	0	0
2	0	8	2
3	0	10	0
4	0	10	0
5	0	7	3
6	0	10	0
7	0	9	1
8	0	10	0

To complete the documentation, a curriculum analysis survey was conducted that involved 40 middle school social studies teachers. The make up of the teacher population was 13 representing grade 6, 13 from grade 7, and 14 from grade 8 (see Appendix B).

The survey was constructed with 9 categories of complex thinking processes from which the teachers were to select those applicable to the subject and grade that they taught.

The use of thinking verbs helped the teachers direct or relate what they thought was important to the category considered to be appropriate to the cognitive development of their students. Furthermore, the survey offered the teachers a vehicle, by which they could provide input and suggestions relative to the development of the continuum.

The results of the survey as shown on Table 2 reflect that at grades 7 and 8, all of the categories received high ratings, indicating that each of them were equally important. For grade 6, categories 5 and 9 received less than 50% response, thereby, relating the degree of importance of these items to students of this grade.

Another interesting observation is the fact that equal importance was placed on items 3, 6, and 7 between grades 6 and 7. Likewise, items 1 and 5 received comparable ratings between grades 7 and 8. It would be safe to assume that

these relative items represent a reinforcement of skills from one grade to another.

Table 2

Distribution of Teacher's Responses

Curriculum Analysis Survey

Category	Grade		
	6	7	8
1	13	10	10
2	7	12	14
3	12	12	10
4	10	11	13
5	6	13	13
6	8	8	10
7	9	9	14
8	7	12	10
9	5	8	14

These data compiled from these sources proved that a problem and a need did, in fact, exist. This information gave the author guidance in the development of an effective critical thinking continuum designed to improve the situation.

The instruments used to gather these data were designed by the author for this specific purpose and do not carry copyrights.

Causative Analysis

Recognizing that the county is extremely large and encompasses 10 cities, one of the major problems underlying this situation is communication. Each area has attempted to do something to resolve the problem with little success, consequently the county has not experienced much benefit from all of this expense and effort. A concerted effort and a coordination of activities between the 3 areas has not been attempted to develop a content related critical thinking continuum, thereby slowing down any progressive movement toward this end.

Social studies teachers were expected to teach their students skills that would enable them to perform well and demonstrate mastery of the subject area. In the social studies content area, teachers were not included or involved in the development of a thinking skills framework, which brought about a deficiency in the teaching of these skills, and a lack of support on their part for thinking skills programs, although they admitted that those skills are necessary to the full development of the child.

Most critical thinking models were directed toward the Language Arts, Reading, and Mathematics disciplines. Consequently the teachers that were selected as participants came from these subject areas, which reinforced the negative feeling that was held by many social studies teachers. The techniques of teaching critical thinking to students are applicable to all disciplines, yet the social studies teachers were denied the opportunity to improve in their efforts to teach critical thinking, structuring questions to elicit specific thinking skills, and motivating students to become more efficient problem solvers.

All of these elements contributed to some degree to the problem and unless they could be reduced or eliminated the situation would not change. It was understandable of course, that teachers could take it upon themselves to become informed and trained in teaching thinking skills, however, this did not benefit the entire county. The students of that teacher gained from the experience, but the other pupils in the school system continued to receive their instruction under the existing methodology. Having a social studies critical thinking continuum integrated with the content curriculum, encouraged a uniformity in the teaching of the thinking skills throughout the school

district. Thus, the entire school system and the student body experienced positive growth toward better thinking habits and academic performance.

The Related Literature

Marzano and Arredondo (1985) said that "To be effective, thinking skills instruction must take place in the framework of a well planned and articulated curriculum and a strong model of instruction" (p. 10). With this thought in mind, the systematic teaching of thinking means a restructuring of the curriculum. Specifically, it means that the content of the classroom must be expanded to include the thinking skills.

Teachers who have abandoned rote memorization in their classrooms have done so because they recognized that the social studies have more to offer than information. Rudin (1984) said that "Social studies should teach students how to think critically about the information they receive" (p. 281). His view supports the theory that failure to develop to the formal operational stage, limits seriously a child's ability to understand the social world and participate intelligently in democratic processes.

It is interesting to note that learning theories now hold that when new data are presented, learners focus

attention on a few details according to the goals established for the learning task at hand. Problem solving is thought to occur in much the same way: by selecting cues in the problem statement, and using them to search memory files for previously learned principles or factual analogues that imply or compose a solution. Expert and novice problem solvers appear to differ primarily in that novices must laboriously work through problems by trial and error, but experts use domain-specific knowledge to recognize familiar aspects of the problem and then recall principles or analogues to known solutions. By doing so, experts can move to a hypothesis (Akin 1980; Chi, Glasser, & Rees, 1982; Feltovitch, 1981; Gagne, 1980). Differences in adult and young children's problem solving ability are said by these theorists to exist mainly in the amount and clarity of knowledge and the processing tricks that have been learned (Brown & DeLoache, 1978; Gagne, 1980).

There is a general agreement among learning theorists that different kinds of useful learning exist. Simple S-R associations (e.g. memorizing term-referent pairs) probably help people translate from a one symbol system, like a place name or map symbol, to an image or referent in memory (McKenzie, 1980). Verbal information or chains, such as

stories, are easy for children to remember and seem to link events together into structures that can be used as analogies (Schallert, 1982). Concepts, abstract definitions of categories or ideas for terms, enable classification and thus facilitate comparison (McKenzie, 1972). Principles, general patterns or cause-effect relations, probably serve as the major premise in deductions and inferences (Gagne, 1985). And cognitive strategies, generalizable routines for tackling different types of problems or processes, are probably used by learners as routines to guide themselves through complex learning or problem solving tasks (Gagne, 1977; 1980).

Gagne (1977) suggests that these different kinds of learning form a hierarchy in which the easily learned lower level bits of knowledge are prerequisites to, and rearranged in, understanding of more complex ideas or solving problems. A number of studies analyze complex concepts into simpler component ideas and either pretest or teach the component ideas. These studies demonstrated that when the subjects know the component ideas, their ability improves to learn or apply the complex processes. (Cancelli, Bergman, & Taber, 1980; Caruso & Resnick, 1972; Mayer, 1975; Resnick & Ford, 1981; White, 1973).

Herber (1985) reported on the design of a program for teaching reading and thinking skills as an integrated part of the various academic subjects taught in the schools. The starting point for instruction in this program was an analysis of the content of the academic discipline being studied. The curriculum analysis provided the teacher with a basis for the selection of instructional materials. After having analyzed possible instructional materials, the reading and thinking skills for the content area were developed.

The teacher-prepared guides consisted of activities designed to help students learn how to perform the various reading comprehension skills emphasized in each lesson. Teachers received inservicing on teaching strategies. There were no separate lessons on reading, thinking, and study skills because students learned the requisite skills for an assignment as they read that assignment.

In a series of studies, Markman (1979), investigated how inferential processing requirements affect children's awareness of their own comprehension failure when presented with inconsistent information. In these studies, children listened to essays that contained either explicit or

implicit contradictions.

Third through sixth-grade children were enlisted as consultants to help the experimenter find problems in the essays and offer suggestions for how the essays could be improved. After children listened to an essay, which was read to them twice, a series of probe questions were asked until the child indicated that he or she had noticed a problem. After the general questions, the child's memory for the essay was tested and then, if the child had not noticed the problem, he or she was asked about the very specific information needed to identify the inconsistencies.

Bloom (1984) presents a taxonomy of educational objectives that covers 3 domains - cognitive, affective, and psychomotor. The taxonomy is intended to provide for the classification of the goals of the educational system.

Through reference to the taxonomy as a set of standard classifications, teachers should be able to define such nebulous terms as "really understand," "internalize knowledge," "grasp the core or essence," and "comprehend." In short, Bloom said, "Teachers and curriculum makers should find this a relatively concise model for the analysis of educational outcomes in the cognitive area of remembering, thinking, and problem solving" (p. 110).

There are 6 major categories in the taxonomy. They are Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. In its present form the class or sub-class of educational objectives are defined in 3 ways. The first and major type of definition is represented by a verbal description or definition of each class and sub-class. A second type of definition is provided by the list of educational objectives which are included under each sub-class of the taxonomy. The third type of definition attempts to make clear the behavior appropriate to each category by illustrations of the examination questions and problems which are regarded as appropriate.

Bloom said that "Knowledge becomes either the material with which the problem solving deals, or it becomes the test of the adequacy and accuracy of the problem solving. Thus, in fields undergoing rapid transition, knowledge may be taught, not so much with the expectation that it will prove eternally "true," but as a basis for learning the methodology of the field, and as a basis for attacking the problems therein" (p. 75).

In an article by Sadler and Whimbey (1985), there appears to be some disagreement in their recommendations for the teaching of thinking skills as compared to those offered

by Bloom, Markman, and Herber. They argue that a taxonomy of thinking skills merely misleads one's understanding of the learning process and interferes with teachers' efforts to improve the analytical ability of students.

What they describe is a more holistic approach which, according to the authors, is being used at a number of schools. The exact figure representing the schools involved was not presented in the article. In it, the holistic approach combines the teaching of analytical thinking with communication in order to improve a student's total intellectual functioning.

Based on past psychological research that emphasizes the importance of involving learners in the process of acquiring knowledge, together with 10 years of trial-and-error experience in the classroom, Sadler and Whimbey, formulated 6 principles that guide the holistic approach to teaching cognitive skills. By applying these principles, the authors feel that it has been possible for them to develop generic thinking competencies in a systematic way, so that students really appear to grow smarter. The 6 principles are (a) teaching active learning, (b) articulating thinking, (c) promoting intuitive understanding, (d) structuring courses developmentally,

(e) motivating learning, and (f) establishing a positive social climate for learning.

Chapter III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

Statement of General Goals

The primary goal of this activity was to promote and cause to be implemented, a county-wide middle grades social studies critical thinking continuum, that would foster uniformity and improvement in the development of thinking processes among middle school students.

Behavioral Expectations

It was expected that at the end of implementation, the social studies program would have a content oriented critical thinking skills continuum integrated with the curriculum. Objectives were placed on the continuum in relation to the cognitive development of the learners, with sufficient reinforcement at each grade level to avoid excessive repetition.

Teachers were able to teach their students critical thinking in a systematic and progressive manner, without causing subject content to suffer, and at the same time promoting student performance.

The following specific objectives, standards of performance, and assessment instruments were designed

and projected by the author to measure the level of success experienced with this activity:

Objective One: The end result will be that 17 out of 24 teachers, on a 5 point scale, will give no less than a rating of 3 indicating that the critical thinking continuum was (a) effective in helping them meet their program objectives, (b) that student response to the critical thinking continuum was favorable, and (c) that the continuum was appropriate for their subject and grade level.

Objective Two: The end result will be that 6 out of 8 Social Studies Department Chairpersons, on a 5 point scale, will give no less than a rating of 3 indicating that (a) the overall effectiveness of the critical thinking continuum as essential to the social studies program and (b) they will recommend the adoption of the continuum to be incorporated with the county middle school social studies curriculum.

Objective Three: The end result will be that 6 out of 8 principals of the pilot schools, on a 5 point scale, will give no less than a rating of 3 indicating that the critical thinking continuum was

(a) effective in their schools, (b) will encourage the expansion of the continuum to include all middle schools, and (c) will request that more staff development programs related to critical thinking be offered.

Objective Four: The end result will be that 60% of 3,600 participating students, will demonstrate an improvement of a minimum of 20 points, or attain a score of 100, when pretest and posttest scores on abilities to apply specific thinking skills are compared on a content related questionnaire.

Evaluation Instruments

A survey was designed to measure how teachers felt about the social studies critical thinking continuum. This survey was constructed using a 5 point scale (1 low - 5 high) and consisted of 4 items to be rated. A space for comments was made available so that additional information could be offered by the teachers (see Appendix C).

The survey was distributed to the teachers at the midway point of this activity, and then again at the end of the school year. The purpose of the midway survey was to

determine if the program was on target or if modifications were in order. The second survey provided the data to evaluate the degree of success when the results were compared to the Objective-Instrument-Criteria for Success Chart.

The survey method was used to determine how the social studies department chairpersons felt about (a) the overall effectiveness of the critical thinking continuum and (b) the adoption of the continuum to be incorporated with the social studies curriculum. On the survey a 5 point scale (1 low - 5 high) was used to rate the 2 items. Additional room was made available for comments (see Appendix D).

This survey was distributed to the social studies department chairpersons twice during the program. The first was at the midway point to find out the level of acceptance by the chairpersons, and if changes would have to be made. The second was at the conclusion of the activity which provided the data to be compared with the Objective-Instrument-Criteria for Success Chart.

Like the teachers and the social studies department chairpersons, the principal's survey was administered twice. Once at the midway point and once at the end of the program.

Since the principals are the leaders of their schools it was important to determine their feelings about (a) the effectiveness of the program in their schools, (b) if they would like to see it expanded to include all middle schools, and (c) if they would like more critical thinking staff development programs offered to their teachers. It was believed by the author that these items required administrative decisions and would be considered major factors in the continuation of this activity.

The survey was designed using a 5 point scale (1 low - 5 high) consisting of 3 items to be rated. A comments section was included on the survey form so the principals could include recommendations or criticisms of the program (see Appendix E).

The midway survey served a twofold purpose. First, it set the objectives for the principals to consider when observing the program in action, and secondly, it provided the author with feedback about how well the program was being received. These data from the final survey were compared to the Objective-Instrument-Criteria for Success Chart to establish the degree of success with this objective.

To analyze these data collected from the teacher's,

department chairperson's, and the principal's final surveys, the results were transposed to Figures, one for each group. The results as shown in the Teacher's Survey Figure reflected the outcome by grade, thereby providing a clearer overview of teacher responses (see Appendix F).

To effectively measure the progress of the participating students, a pretest was administered at the beginning of the program. This served to establish a baseline from which a progression could be verified. The same test was used as the posttest at the conclusion of the activity.

The 100 item pretest-posttest was constructed as a content related questionnaire, designed to elicit specific thinking skills, by offering multiple choice answers from which the students made their selections (see Appendix G).

The same test was administered to grades 6, 7, and 8 because it was not a test of knowledge, rather, it was a test on the student's ability to apply those thinking skills that would lead to success.

The teachers recorded the pretest scores on the "Critical Thinking Skills Tally Sheet." This record remained in their possession until the posttest scores were recorded in the appropriate column, at which time the

department chairpersons sent the tally sheets to the author for final analysis (see Appendix H).

In a third column of the tally sheet the difference, if any, between the pretest and posttest scores were entered by the author. Tables were prepared to indicate the distribution of the pretest and posttest scores, followed up by a third table that was prepared to indicate the score differences and the number of students who placed in that range, by grade level.

The combined total number of students for each range was then calculated to give a consolidated sum, which provided the necessary data to determine the degree of success with this objective (see Appendix I).

The Objective-Instrument-Criteria for Success Chart defined the instruments that were used to gather data on the 4 objectives that the social studies critical thinking continuum was designed to accomplish. The subject's performance, and the feelings of teachers, department chairpersons, and principals were measured by the criteria that had been established for each objective (see Appendix J).

The measuring instruments, forms, tests, and lesson plans located in the Appendices are not under copyright.

They have been designed by the author for use with this specific program.

Chapter IV

SOLUTION STRATEGY

Discussion and Evaluation of Solutions

Current literature on thinking presents multiple lists of cognitive processes that can be considered thinking skills. It is dangerous to confuse one level of thinking with another in terms of its power or significance. Beyer (1984) stresses the importance of defining skills accurately and suggests reviewing the work of researchers like Bloom, Guilford, and Feuerstein to find useful definitions. Clear definitions, Beyer maintains, do not confuse distinctly different processes like inquiry and simple recall. Furthermore, consistent with other researchers of cognitive processes, Beyer distinguishes between lower, essential skills and complex, multiple-process strategies. "For example," Beyer said, "there is a great difference between picking identical examples of a particular insect and finding the antidote to the sting of the same insect. One task involves the basic processes of identification and comparison; the other requires multiple, sophisticated, replicable, and squential steps of problem solving" (p. 487).

Nickerson (1981) suggests that no one taxonomy exists. "Educators would be wise," he advises, "to select abilities

that represent what they want students to be able to do and incorporate these particular skills into their curriculums and school programs" (p. 21).

Since the initial work of Bloom and Guilford, a greater concern for the developmental appropriateness of tasks or thinking skills has emerged. Hudgin's (1977) study of thinking and learning emphasizes Piaget's research on the development of thinking processes as the child grows intellectually. This research assumes that there is a regular sequence to children's cognitive development, but not precisely in direct age correlates.

Piaget (1970) suggests that youngsters first entering school are mostly "preoperational" or dominated by their perceptions. Gradually they develop systematic explanations or concrete rules for resolving conflicting situations or explaining diverse phenomena; they form conceptualizations. By their early teens, most students develop the ability to form higher forms of cognitive operations; they learn to vary interpretations or descriptions in abstract form and to construct formal explanations of cause and effect.

Hudgins (1977) said "Somehow, the scope of thinking

skills in a K-12 curriculum needs to relate to this developmental and cumulative sequence as well as to the empirical research it represents" (p. 73). According to Hudgins, "The relationships of particular subject matter to the specific skills to be learned may also be of developmental consequence" (p. 84).

Much attention has been given to the decline in Scholastic Aptitude Test (SAT) scores. Contrary to public opinion, this decline does not indicate a drop in basic knowledge. According to Jencks (1978), a breakdown of the SAT examination questions showed no significant decline in spelling, punctuation, reading recall, or basic mathematic skills. Students were less successful, however, with those questions requiring more complex thinking, such as making analogies and organizing concepts.

The review of the literature indicated that students were lacking the ability to apply critical thinking skills, and that the problem has been a part of the educational community for decades. Considering all of the approaches to develop a model program there appeared to be one ingredient missing, and that was, a form of cohesiveness either within a school district or across the nation, in the teaching, application, and priorities of critical thinking skills.

Furthermore, the literature revealed that the programs which experienced the greatest success were those that were supported and required by the local school hierarchy. When teachers can voluntarily promote the development of critical thinking skills, a noticeable decline in effort on the part of teachers, and a greater dissatisfaction expressed by teachers becomes evident. Herber (1985) acknowledges this observation, but indicates, there are, as yet, no hard data either to support a possible inference from this conclusion, or to draw profiles of teachers who like and teachers who do not like a critical thinking skills program.

Bloom's taxonomy (1984) and the studies by Markman (1979), coupled with the program reported on by Herber (1985), dealt with comparable populations that were involved in the proposed critical thinking skills activity.

Description of Selected Solutions

Through the involvement of middle school teachers, the Social Studies Program Development Department, and the social studies department chairpersons, a determination was made for the proper placement of thinking skills objectives in the middle school social studies curriculum.

The critical thinking skills continuum served as a springboard to the development of appropriate lesson plans,

correlated with the State Department of Education's Uniform Student Performance Standards, for each grade level (see Appendix K).

The task of correlating the Uniform Student Performance Standards with the lesson plans involved several steps. First, it was necessary to determine the rankings of the complex thinking processes for grades 6, 7, and 8. The results as shown in Table 2 were used by the author in making these decisions. According to the priorities setforth by the teachers the following continuum, by grade level, was developed:

Grade 6

* 1. Controlled Problem Solving
* 2. Information Processing
* 3. Reasoning
* 4. Mastering Disciplinary Inquiry
* 5. Analyzing Persuasive Messages
* 6. Inquiring and Open-Ended Problem Solving
7. Making Moral Choices
* 8. Evaluating
9. Using Critical Thinking in Making Life Choices

Grade 7

* 1. Evaluating

* 2. Information Processing

* 3. Inquiry and Open-Ended Problem Solving

4. Making Moral Choices

* 5. Reasoning

* 6. Controlled Problem Solving

* 7. Mastering Disciplinary Inquiry

* 8. Analyzing Persuasive Messages

9. Using Critical Thinking in Making Life Choices

Grade 8

* 1. Evaluating

* 2. Inquiry and Open-Ended Problem Solving

* 3. Information Processing

* 4. Mastering Disciplinary Inquiry

5. Using Critical Thinking in Making Life Choices

* 6. Reasoning

7. Making Moral Choices

* 8. Analyzing Persuasive Messages

* 9. Controlled Problem Solving

The asterisk preceeding the thinking processes identifies those items that correlate with the Uniform

Performance Standards.

A copy of the critical thinking continuum was included in the appropriate grade level lesson plan book. This information offered the teachers a quick reference to the critical thinking priorities that they had generated.

The second part of the correlation process required the use of the Uniform Student Performance Standards to obtain the mandated goals and objectives for the middle school social studies curriculum. These data provided the author with (a) 10 goals and 39 objectives for grade 6 - World Cultures, (b) 10 goals and 51 objectives for grade 7 - Geography, and (c) 13 goals and 45 objectives for grade 8 - United States History.

The intent of the lesson plans was to lead the student through each set of objectives, using critical thinking teaching strategies, thereby reaching the stated goal for that subject matter.

Using these data the lesson plans were designed with a cover page that defined the identification of the subject and course title, grade level, concept to be developed, and the objective for that lesson.

Selected levels of Bloom's taxonomy, appropriate to that lesson, with action verbs to stimulate good questions

or activities to elicit specific thinking skills were grouped together in one section of the lesson plan.

Following the section on Bloom's taxonomy, the teachers were offered some suggested techniques to help the students exercise the thinking categories presented. These tasks were written in generic terms because many times the same objective referred to different aspects of the course.

Thus far the design of the lesson plan has provided the teacher with a foundation to implement an effective learning situation. The teacher is fully cognizant of (a) what concept is to be developed, (b) the objective that is mandated by the state, (c) the levels of thinking appropriate for that lesson, (d) action verbs to induce thinking, and (e) suggested techniques to stimulate teacher creativity.

The final step to developing the lesson plan is the section on procedures. This section is considered by the author to be the core of the lesson plan. The teacher is provided a guide to preparing a 3 phase lesson that will foster different kinds of thinking for each part of the procedures section.

The reader will observe that the blocks titled "Teaching Strategies" are left blank. By not completing

them, the author has allowed for greater flexibility and adaptability in the usage of the lessons. For example, (a) different environments, (b) teaching styles, (c) materials and textbooks, (d) equipment, and (e) teacher autonomy.

Phase I is "Setting the Stage" for the lesson. It is here that the teacher prepares the learner for the information and tasks that will be forthcoming. This is accomplished by referring to "What the Student Will Think About" section. In the "Teaching Strategies" section of Phase I the teacher will write the plans to promote thinking along these terms. In the preparation phase the student should become aware of (a) the objective and purpose of the lesson, (b) criteria for success, (c) past knowledge of the subject, and (d) motivation - a desire to succeeed.

In Phase II, the teacher presents the material after the learner has been prepared to receive it. Phase II is when the student begins to process information and starts to formulate new opinions, questions, and ideas about the topic. During this element of the lesson plan the student is given opportunities to compare new information with previous knowledge. The teacher will follow the same methodology as described for Phase I in completing the

Phase II "Teaching Strategies" portion.

Phase III is the final phase in the teaching of content related material with specific thinking processes in action. In this phase the student is given tasks that will promote an extension of learning. The activities are constructed so the student can apply and evaluate the new knowledge by demonstrating abilities to organize, categorize, summarize, and analyze the topic that was under study. Other activities, implemented by the teacher, would be designed to extend learning of the thinking processes through transference and application to new situations.

To conclude the lesson and to assess the student's achievement, a measuring instrument selected by the teacher would be administered. This device could be either an oral or written test, activity, a project, or a report in some form.

The social studies department chairpersons were inserviced by the author in the methodology, techniques, and procedures of the critical thinking continuum, so they could assist in the continued development of the social studies teachers at their respective schools.

After having been inserviced by the author, the social studies teachers presented 2 lessons per week to their

students in which the thinking skill was the main focus. The balance of the lessons for the week integrated thinking lessons where a content objective became the main focus, and the thinking skill simply noted and reinforced. A Critical Thinking Teaching Log was used for accountability (see Appendix L).

Follow-up visits by the author and the social studies department chairpersons provided teachers with (a) immediate assistance, (b) their questions answered, (c) situations resolved, (d) reinforcement for their efforts, and (e) program accountability.

The timing for a social studies critical thinking continuum was right, because the County Superintendent of Schools had committed the educational community to the improvement of critical thinking skills across the curriculum. In support of this goal by the school principals and faculty members, a strong indicator of success appeared through their cooperation and willingness to participate.

Other thinking programs have been tried but this solution overrode the previous attempts, primarily because social studies teachers were given the opportunity to provide input and participate in the construction of a

content related critical thinking continuum. This is a task that has been limited to a special few in the past, or was isolated to specific disciplines.

As a result of the fragmented approach in solving this situation, students have demonstrated a serious deficency in their ability to apply specific thinking skills concepts. This became evident in their performance on tests that incorporated higher order thinking skills with content related material, or the transference of skills from one task to another.

It was believed by the author that a content related critical thinking continuum would improve the student's ability to function effectively, encourage teachers and principals to actively participate in delivering the critical thinking curriculum, and foster a county-wide methodology in the teaching of a social studies critical thinking continuum. See Appendix A, which was used as a foundation for the development of the critical thinking continuum.

Report of Action Taken

Since the activity was to be implemented during the entire 1987-1988 school year, it became necessary to

initiate several pre-operational tasks in mid-August. This approach gave the author access to the principals, teachers, and the department chairpersons prior to the arrival of students.

It was during this time that the extent of the problem was determined by surveying 40 middle school social studies teachers, coupled with interviews with personnel from the Social Studies Program Development Department.

These data gathered from these sources provided pertinent information to substantiate the need for, and the placement of specific thinking skills in a content related critical thinking curriculum.

The author proceeded to correlate these data with the State Department of Education's Uniform Student Performance Standards to develop appropriate lesson plans and strategies for the teaching of content related critical thinking skills in grades 6 through 8. Bloom's taxonomy of the cognitive domain was used to enhance the usage of action verbs to elicit different levels of thinking skills from the students. The lesson plans were reviewed by the Social Studies Program Development Department, and approved to be incorporated into the program.

A meeting was called for the 8 middle school principals

where the proposed program was introduced. The objectives and procedures of the activity were fully explained, and sample lesson plans and other instruments that were to be used were distributed. The intent of this meeting was to gain the support of the administration and permission to activate the program in their schools. The proposal was accepted by the principals and permission to use their facilities was granted.

Since the program was not going to receive funding from other sources, the principals offered additional support services that came in the form of space, personnel, equipment, materials that were currently being used, and money to pay for the inservicing of their department chairpersons and teachers. Each principal agreed to select 1 teacher at each grade level, and their department chairperson to participate in the program.

The author conducted a 10 hour inservice program for the participating social studies department chairpersons and teachers. The topics discussed during the workshop consisted of program procedures, objectives, delivery systems, methodology, structuring questions, and evaluation.

Teachers were grouped by their grade level and worked in teams of 4. This allowed for interaction between

teachers, of like grade levels, as they prepared instructional strategies designed to encourage different thinking processes.

While the teachers were developing their instructional strategies, the author and the department chairpersons circulated amongst the groups, which served a twofold purpose. First, the teachers were not abandoned with the task of developing instructional strategies. Guidance and assistance was always available. The teachers would then be able to return to the classroom with usable materials that they had developed. Secondly, the experience allowed the department chairpersons (a) to develop their skills at coordinating activities, (b) communicating about critical thinking, and (c) increasing their familiarity and awareness of reporting procedures, methodologies, and the lesson plans that the teachers would be using.

The teachers were instructed to teach 2 lessons each week that were primarily focused on content related thinking skills. The other lessons for the week would be primarily focused on content to reinforce the thinking skills.

A record of thinking lessons taught will be entered on a log. This provides for accountability as well as feedback to the author about teacher attitudes and the effectiveness

of the lesson. A demonstration was given to the teachers and the department chairpersons about the procedures to enter the information. It was stressed that after a lesson had been presented the teacher should enter the date on the appropriate week number of the log, fill in the objective number, and write a comment about the lesson.

The logs would be collected by the department chairpersons at the end of the first semester and give them to the author. The input from the logs would be used as an indicator to determine if the program was on the right track to meet its objectives. Teachers would continue with the same procedure throughout the second semester.

Two weeks after the opening of schools and classes were organized, the participating teachers administered a 100 item, multiple choice, critical thinking skills pretest. The students bubbled in the answer of their choice on to the answer cards. All of the teachers administered the pretest on the same day. At the end of the day the department chairpersons collected the answer cards from the participating teachers at their schools and forwarded them to the author for correcting.

These data gathered from the pretest provided a baseline for each student in the program. The subjects

were identified by student numbers instead of names. After the data had been collected from the answer cards, the author returned a master printout of the test results to the department chairpersons, who then made distribution to the teachers at their respective schools. The teachers, upon receiving the print out transposed the scores of their students to a Critical Thinking Tally Sheet designed to show the results of the pretest and posttest scores. A third column shows the difference between the 2 scores. The author will complete the third column in June after receiving the tally sheets from the teachers.

In the same time frame, after the pretest had been administered, all of the program teachers implemented the procedure of teaching 2 content related critical thinking lessons per week. The author scheduled himself to visit each of the middle schools for a full day to observe the critical thinking presentations, teacher behavior, and student reaction at each of the grade levels. Conferences were held with the participating teachers during their planning period to review what had taken place in their classroom. The department chairperson was invited to sit in on the observations and to join in the conference. The sole purpose of the observations was to provide support and assistance to the teachers and to give them an opportunity

to express their feelings about the program or ask questions.

The routine of teaching 2 critical thinking lessons per week continued through the balance of the school year with follow-up school visitations taking place in the months of November, January, March, and June.

In January, a midway survey of the principals, department chairpersons, and the teachers associated with the program was taken, and the teacher logs were collected. The purpose of the survey and the teacher logs was to determine if any causes for modifications to the program were becoming apparent. After these data had been evaluated it was concluded by the author that no changes to the operation of the activity were necessary. A summary of the survey report was distributed to all of the concerned educators taking part in the program.

In the last week of May the teachers administered the critical thinking posttest. This test was identical to the pretest, and a comparison of the 2 scores indicated the degree of change in the student's ability to apply these skills. Following the same procedures as described for the pretest the teachers prepared their Critical Thinking Tally Sheet.

To conclude the program, the teachers returned their completed tally sheets and their second semester teacher logs to their department chairpersons in June. These instruments together with a final survey of the principals, department chairpersons, and teachers provided the data to measure the degree of success in meeting the proposed objectives.

The author was always seeking opportunities to further expand the program. In October that moment happened when when the State Department of Education called for grant proposals under the Educational Improvement Program (EIP) act.

One of the stipulations in obtaining an EIP grant is that the community must be involved in the project. Working through the North Area Advisory Council, comprised of parents, educators, and community leaders, the author was able to gain their support and cooperation in the development of a grant proposal.

Using the Social Studies Critical Thinking Program as a basis for the grant, it was expanded to include the school advisory councils. The council members, it was proposed, would assist the author in the preparation, layout, printing, and distribution of a parent handbook. The

handbook would contain at home strategies, techniques, and ideas to enhance the development of critical thinking skills in the middle school child.

In March, the State Department of Education announced which proposals were accepted and the amount of money to be granted. Statewide, 139 proposals were accepted, including 6 from this school district. Fortunately, the proposal as written by the author was 1 of the 6.

The monies for the project will be made available for the 1988-1989 school year. In terms of benefits for the Social Studies Critical Thinking Program it means that $2,560.00 can be used for (a) the parent handbook, (b) expansion of the program to include the home, (c) an agreement by the community to "showcase" the activity, (d) purchasing power to buy supplemental critical thinking materials for the teachers, and (e) a 1 year extension of the program.

Chapter V

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Results

The use of a Social Studies Critical Thinking Continuum that included lesson plans and action verbs to elicit specific thinking skills, proved to be beneficial to students in the use of appropriate techniques to improve concept development and academic performance.

Results as shown for each of the objectives support the studies reported in the review of the literature, which indicate a relationship between student academic performance and the application of higher order thinking processes. The 4 objectives developed for this design follows:

Objective One:

The end result will be that 17 out of 24 teachers, on a 5 point scale will give no less than an overall rating of 3 indicating that the critical thinking continuum was (a) effective in helping them to meet their program objectives, (b) that student response to the critical thinking continuum was favorable, and (c) that the continuum was appropriate for their subject and grade level.

The Teacher's Survey in Figure 1 reflects the teacher's belief in benefits derived from the Social Studies Critical Thinking Continuum. The statistical results show that this objective was satisfactorily met.

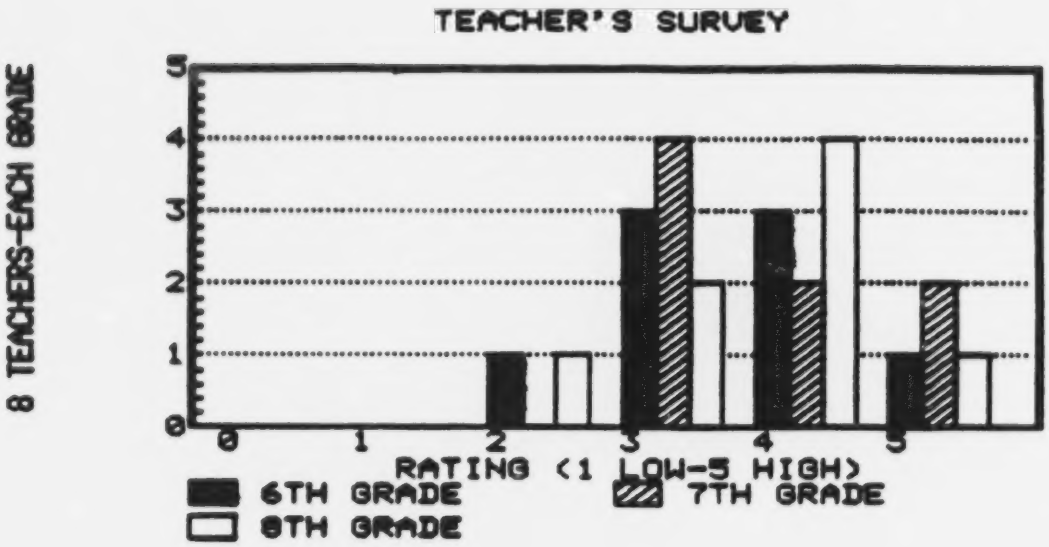

Figure 1. Results from the final survey showing the teacher's overall ratings of the Critical Thinking Continuum.

It is interesting to note that only 2 teachers rated the program below a 3 on the 5 point scale, whereas the distribution of teachers at ratings 3 and 4 were equally divided with 9 teachers at each point, and the remaining 4 teachers gave a rating of 5. Further examination of Figure 1 indicates that the program had a high level of acceptance and met the needs of the individual grades.

Objective Two:

The end result will be that 6 out of 8 social studies chairpersons, on a 5 point scale, will give no less than a rating of 3 indicating that (a) the overall effectiveness of the critical thinking continuum as essential to the social studies program and (b) they will recommend the adoption of the continuum to be incorporated with the county middle school social studies curriculum.

Analysis of the statistics shown on the Social Studies Department Chairperson's Survey in Figure 2, reveal that the chairpersons were highly receptive to the Social Studies Critical Thinking Continuum. In both areas that were evaluated it was noted that effectiveness and recommend adoption had an equal distribution of chairpersons at the rating of 4. This objective was surpassed because all 8 of the chairpersons judged the program to be a 3 or above in both categories.

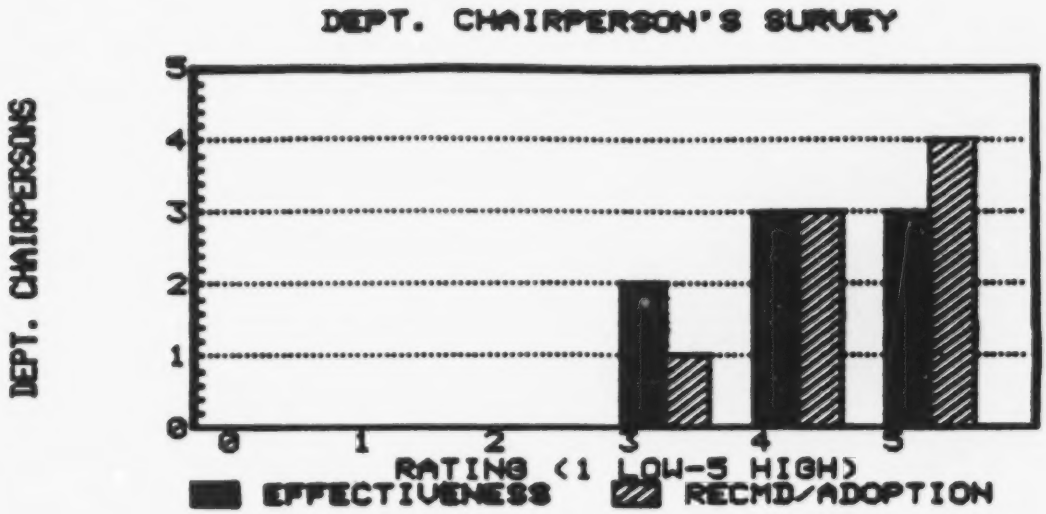

Figure 2. Results from the final survey showing the social studies department chairperson's ratings on the desirability of the Critical Thinking Continuum.

Objective Three:

The end result will be that 6 out of 8 principals of the pilot schools, on a 5 point scale, will give no less than a rating of 3 indicating that the critical thinking continuum was (a) effective in their schools, (b) they will encourage the expansion of the continuum to include all middle schools, and (c) they will request that more staff development programs related to critical thinking be offered.

The data as presented in the Principal's Survey in Figure 3 shows that the principals felt that the program was successful and that it should be continued in all of the district's middle schools, coupled with more staff development programs. This objective, as proposed, was well satisfied in the 3 categories that were judged.

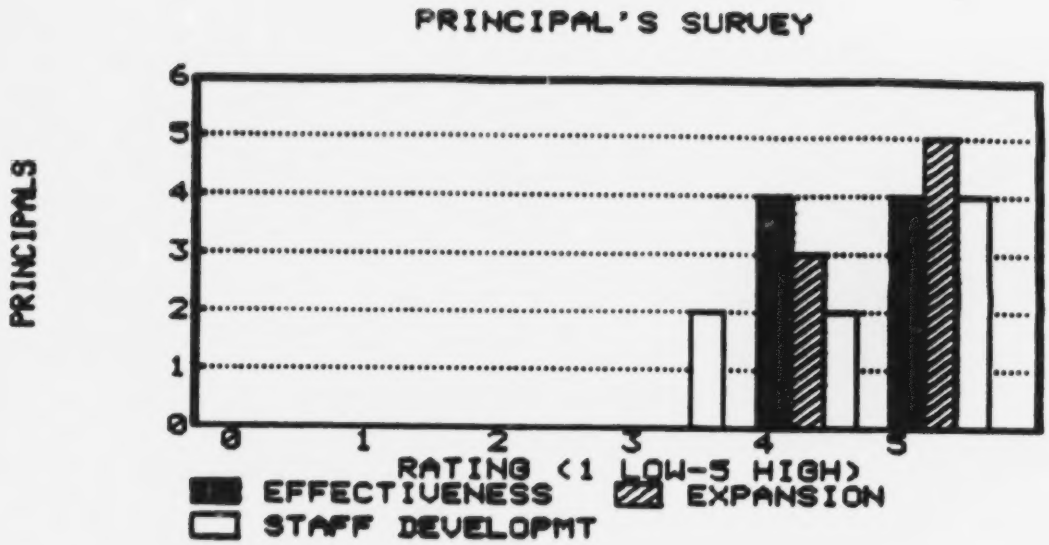

Figure 3. Results from the final survey showing the principal's ratings on their support for the Critical Thinking Continuum.

The analysis of these data in Figure 3 indicates that the principals were equally divided in rating the effectiveness with ratings of 4 and 5. This speaks well of the program and feedback that the principals received at their schools. In the expansion category 5 principals gave a rating of 5, and 3 gave a rating of 4. Although both are high ratings it is important to note that more than 50% of the principals desire the program to be expanded. In the area of staff development there appears to be a wider spread on the rating scale. This is the only category that received a rating of 3 by 2 principals. Two principals gave a rating of 4, and 4 principals rated it a 5. It was suggested by some of the principals that the teachers already involved in the program could become resource teachers for the rest of their staff, thereby reducing the need for staff development programs to be brought to their schools. This could account for the 2 principals that gave a rating of 3.

Objective Four:

The end result will be that 60% of 3,600 participating students will demonstrate an improvement of a minimum of 20 points, or attain a score of 100, when pretest and posttest scores on abilities to apply specific thinking skills are

compared on a content related questionnaire.

The results as shown on Table 3 clearly indicate that the students did not score well on the pretest. Out of 1,200 students in each grade only (a) 104 from grade 6, (b) 38 from grade 7, and (c) 25 from grade 8 scored 70 or above. None of the students scored 100 on the pretest.

An interesting observation is that the vast majority of the students from all grade levels were performing in the range of 20-39 points. It was also noted that out of 3,600 students, 452 placed in the range of 10-19 points, and 122 students scored 9 or less.

In the final analysis of this score distribution a negative indicator emerged. The students were weak in the application of critical thinking skills, and without a positive critical thinking program in place, their chances for success were limited. From these data a baseline was established for each student.

Table 3

Distribution of Pretest Scores

Range of Correct Items	Number of Students by Grade 6	7	8	Combined Totals
0 - 9	29	40	53	122
10 - 19	123	191	138	452
20 - 29	370	433	290	1,093
30 - 39	494	371	431	1,296
40 - 49	30	49	122	201
50 - 59	21	60	93	174
60 - 69	29	18	48	95
70 - 79	70	16	17	103
80 - 89	25	15	3	43
90 - 99	9	7	5	21
100	0	0	0	0
Totals	1,200	1,200	1,200	3,600

The results of the posttest scores as shown in Table 4 present a better picture about the student's ability to apply critical thinking skills as compared to Table 3. A definite improvement can be observed at the lower spectrum of the correct items scale.

It is obvious that as the students became more proficient in the application of critical thinking skills, and could transfer these skills to different situations, their performance and self confidence began to rise.

One of the most notable differentials that became immediately apparent is that none of the students in all of the grades scored less than 20. This factor in itself revealed that the 574 students out of 3,600 as shown on Table 3, for scores below 20, performed better.

Further examination of Table 4 revealed that the scores were not grouped in a narrow range as indicated on Table 3. On Table 4 the results show an increase in the span of scores where most students performed, and that the range was from the mid to high level of the scale. Most students were now performing between a range of 40-89. An interesting observation that should be noted at this point is that out 3,600 students, 164 scored between 90-99, and 35 scored 100 on the postest as compared to 21 scoring 90-99, and none scoring 100 on the pretest.

Table 4

Distribution of Posttest Scores

Range of Correct Items	Number of Students by Grade			Combined Totals
	6	7	8	
0 - 9	0	0	0	0
10 - 19	0	0	0	0
20 - 29	30	58	33	121
30 - 39	60	61	55	176
40 - 49	140	96	62	298
50 - 59	218	320	37	575
60 - 69	238	311	350	899
70 - 79	270	203	399	872
80 - 89	169	102	189	460
90 - 99	57	44	63	164
100	18	5	12	35
Totals	1,200	1,200	1,200	3,600

The data on Table 5 were gathered from the Critical Thinking Tally Sheets that the department chairpersons provided to the author. In the final analysis of these data it was determined that this objective had been met beyond expectations.

The results of the score differences as shown on Table 5 reveal that most of the improvement displayed occurred in the range of 20-59 points. Added to this group, 35 students out of 3,600 scored 100 on the posttest. A combined total of 2,273 students out of 3,600, or a little more than 63% of the subject population met the criteria for success.

Further analysis of the score differences indicate that the number of students meeting the criteria for success increased by grade level or maturation of the students.

In grade 6, 731 students qualified as compared to 741 in grade 7, and 801 in grade 8. Each grouping had a base of 1,200 students participating in the activity. Although grade 6 had the lowest number of students qualifying, it had the highest number scoring 100 on the posttest.

Table 5

Distribution of Score Differentials

Pretest-Posttest Score Differences	Number of Students by Grade			Combined Totals
	6	7	8	
0 - 9	100	149	166	415
10 - 19	369	310	233	912
20 - 29	452	581	541	1,574
30 - 39	228	154	212	594
40 - 49	27	0	25	52
50 - 59	6	1	11	18
60 - 69	0	0	0	0
70 - 79	0	0	0	0
80 - 89	0	0	0	0
90 - 99	0	0	0	0
100	0	0	0	0
Sub-totals	1,182	1,195	1,188	3,565
Posttest Score of 100	18	5	12	35
Totals	1,200	1,200	1,200	3,600

It is significant to recognize that Table 5 shows some students making tremendous gains between their pretest and posttest scores. A combined total of 594 students out of 3,600 improved their performance between 30-39 points. In the 40-59 range the number dramatically decreases to a combined total of 70, however, this remains important because it supports the theory that performance can be influenced through the application of thinking skills.

Conclusion

The results of the Social Studies Critical Thinking program, that incorporated content related lesson plans designed to promote higher levels of thinking, showed that it was instrumental in fostering a climate of inquiry, learning, and application.

By drawing on the strengths of the review of the literature and discarding their weaknesses, various methods were employed to develop a well-rounded program for change. The 3 areas that this activity emphasized concern about was (a) the development of an effective content related critical thinking continuum, (b) the uniformity in the teaching of critical thinking skills, and (c) improvement on the student's behalf to apply critical thinking processes.

The lesson plans were structured in a such a manner that allowed for the creativity of teachers in developing their own instructional strategies to meet specific thinking processes. Many found that organization was easier for the teacher and motivation remained high for the students by having the lesson plan divided into 3 phases - Preparation for Learning, Presentation of Content, and Application and Evaluation.

It was believed by the participating teachers that the two lessons taught each week that were focused on content related critical thinking skills, better prepared the students to cope with and apply skills to understand concepts being developed.

The pretest-posttest scores support the consensus of opinions expressed by the teachers that their students were performing on a higher thinking level and becoming more involved in classroom activities.

Rudin (1984) said that "Social studies should teach students how to think critically about the information they receive" (p. 281). His observation supports the theory that a child who fails to develop to the formal operational stage becomes seriously limited in his/her ability to understand the social world and participate intelligently in democratic

processes. Along this line of reasoning the lesson plans were designed to help the students reach the formal operational stage, where they could apply the critical thinking skills and be able to transfer these skills to different situations.

The relationship of teacher behavior and student progress was observed to be an important factor that contributed to the success of the critical thinking program.

In his book, A Place Called School, John Goodlad reports on an exhaustive study involving observations of more than 1,000 classrooms in a variety of communities throughout the country. A summary of results showed that an average of 75% of class time was spent on instruction. Approximately 70% of this time involved verbal interaction - with teachers "out talking" students by a ratio of 3 to 1. Observers noted that less than 1% "teacher talk" invited students to engage in anything more than mere recall of information.

Other studies have reached similar conclusions. Most teachers do not regularly employ methods that encourage and develop thinking in their students.

What the teacher says and does in the classroom greatly affects student learning. Over the past 15 years much

research has demonstrated that certain teacher behaviors influence students' achievement, self-concept, social relationships, and thinking abilities.

Early in their school experience, children learn to listen and respond to the language of the teacher. From questions and other statements that the teacher poses, students derive their cues for expected behavior. Questions are the intellectual tools by which teachers most often elicit the desired behavior of their students. Thus, they can use questions to elicit certain cognitive objectives or thinking skills. Embedded in questions and other statements are the cues for the cognitive task or behavior the student is to perform (Davis and Tinsley, 1967).

There is a relationship between the level of thinking inherent in teachers' verbal behavior and the level of thinking of their students (Measel and Mood, 1972). Correlations have been found between the syntax of the teacher's question and the syntax of the student's response (Cole and Williams, 1973). Furthermore, teachers whose questions more frequently require divergent thinking produce more divergent thinking on the part of their students, in contrast to teachers who use more cognitive memory questions (Gallagher and Ashner, 1963). Students score higher on

tests of critical thinking and on standardized achievement tests when teachers use higher-level cognitive questions (Newton, 1978; Redfield and Rousseau, 1981).

The review of the literature proved to be most beneficial to the development of this activity. The end result of the program supports the methodologies that were so adequately describe. Students do learn when they can apply the appropriate thinking skills.

By using the 6 major categories in the Bloom's taxonomy, with action verbs, the teachers realized more effective ways to structure questions and zero in on different levels of thinking. The value of this system to the program was evident in the student's progress, attitudes, and socialization.

An unexpected opportunity that was realized from the program became known when the participating teachers reported to the author that there appeared to be a transference of thinking skills from the social studies to other disciplines. This indicated that many of the students were showing improvement in their performance for other teachers as a result of the Social Studies Critical Thinking Continuum.

Based upon the program results it is believed by the

author that more emphasis should be placed on developing thinking skills in the social studies across the nation. Although some will argue the point, the author feels that no other discipline offers greater opportunities or resources to develop critical thinking skills on a broad scale.

Recommendations

The following recommendations are presented to make the Social Studies Critical Thinking Continuum more effective:

1. The program should be expanded to include all of the elementary and high school grades, thereby, causing a critical thinking growth pattern to take place over the life of the student's school years.
2. Parents should become more involved in the program so that the students can exercise critical thinking skills outside of the classroom.
3. Teachers should be provided opportunities to come together and share their experiences, ideas, and materials with each other. This would be informative, inspirational, and motivational for the participating members.

Dissemination

Plans to disseminate this practicum include submission

to the National Council for the Social Studies for presentation and entry to their exemplary projects competitions. With the approval of the grant that was applied for, more involvement with the community will be realized, coupled with a parent handbook based on the program, which will be distributed to the parents of students. In addition, this program will be offered to the Director of Student Services for implementation in the county Dropout Prevention Program. Lastly, it will be submitted for consideration to be included in the Educational Resources Information Center (ERIC).

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APPENDIX A

SOCIAL STUDIES PROGRAM DEVELOPMENT DEPARTMENT
ORAL INTERVIEW FORMAT

SOCIAL STUDIES PROGRAM DEVELOPMENT DEPARTMENT
ORAL INTERVIEW FORMAT

This oral interview is being conducted to determine if the school district has:

1. A list of major thinking skills to be taught with the middle school social studies curriculum.

2. An agreement among the middle school social studies teachers that these skills should be taught throughout the system.

3. A middle school curriculum document that clearly delimits which thinking skills are to be taught at each grade level in the social studies program.

4. A middle school social studies curriculum document that presents thinking skills to be taught in a developmental sequence based on the cognitive development of learners, nature of the target skills, and subject-matter needs.

5. A thinking skills curriculum that provides for continuing instruction in these skills across many grade levels and social studies subjects.

6. A detailed description of the operating procedures, rules, and distinguishing criteria of each major thinking skill or process to be taught.

7. An appropriate document containing thinking skill descriptions in the immediate possesion of every teacher and administrator.

8. Made provisions for instruction in each skill with a variety of media, in a variety of settings, and for a variety of goals.

APPENDIX B

CURRICULUM ANALYSIS SURVEY

SPECIFIC THINKING SKILLS

Directions: Below are listed some "thinking verbs" - verbs that suggest specific thinking skills. Use these verbs to help you identify thinking objectives in the subject and grade level that you teach. There are 9 Complex Thinking Processes identified. It is possible that all of them will not be applicable to your subject or grade level, and you may also find some specific thinking skills appropriate for more than one process.

1. create
2. translate
3. classify and categorize
4. infer
5. organize information
6. predict
7. interpret
8. synthesize
9. determine cause
10. identify effect
11. evaluate
12. order and arrange in sequence
13. make analogies and metaphors
14. observe
15. identify errors and fallacies
16. compare and contrast
17. summarize
18. generalize
19. analyze
20. estimate
21. verify
22. conclude
23. memorize

MIDDLE SCHOOL SOCIAL STUDIES
Curriculum Analysis
Complex Thinking Processes

Subject Area:_____
Grade Level:_____

1. Controlled problem solving: developing and applying algorithms and heuristics for solving convergent, closed, or controlled problems where there is one right answer.

   Specific thinking skills:

   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____

2. Inquiry and open-ended problem solving: identifying a problem, analyzing a problem, gathering data, generating and evaluating solutions.

   Specific thinking skills:

   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____
   _____ _____

3. Information processing: framing a question, identifying appropriate descriptors, identifying appropriate sources, scanning and evaluating sources, recording and storing information, synthesizing and applying information.

   Specific thinking skills:

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

4. Reasoning: recognizing assumptions, reasoning deductively, reasoning inductively, identifying fallacies in reasoning, using practical reasoning models.

   Specific thinking skills:

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

5. Evaluating: classifying things to be evaluated, developing criteria and standards, applying criteria and standards, making and reporting judgments.

   Specific thinking skills:

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

6. Analyzing persuasive messages: discerning persuasive intent, identifying and analyzing persuasive strategies, weighing well-intentioned persuasion.

   Specific thinking skills:

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

   _____ _____

7. Mastering disciplinary inquiry: understanding the special ways of knowing in that discipline, understanding the nature of "truth" in that discipline, understanding and applying the special methods of inquiry, understanding the uses and limitations of that method of inquiry.

   Specific thinking skills:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

8. Making moral choices: recognizing a moral issue, discerning one's core values, understanding the range of options, weighing competing claims, making a principled choice, evaluating choices.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

9. Using critical thinking in making life choices: spending and saving, choosing a career, selecting a college, choosing a place to live.

Specific thinking skills:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

APPENDIX C

TEACHER'S SURVEY

TEACHER'S SURVEY

DIRECTIONS: This survey is designed to measure the way you feel about the social studies critical thinking curriculum. There are no right or wrong answers. Please answer what first comes to your mind. Comments are welcome.

(1) = Clearly Disagree (2) = Slightly Disagree (3) = Agree
(4) = Strongly Agree (5) = Clearly Agree

	1	2	3	4	5	
1.	__	__	__	__	__	You feel that the social studies critical thinking continuum was effective in helping you to meet your program objectives.
2.	__	__	__	__	__	You feel that the student response to the social studies critical thinking continuum was favorable.
3.	__	__	__	__	__	You feel that the social studies critical thinking continuum was appropriate for your subject and grade level.
4.	__	__	__	__	__	What do you feel would be an appropriate overall rating of the 3 items?

Comments:_____

_____

_____

_____

_____

APPENDIX D

SOCIAL STUDIES DEPARTMENT CHAIRPERSON'S SURVEY

SOCIAL STUDIES DEPARTMENT CHAIRPERSON'S SURVEY

DIRECTIONS: This survey is designed to measure the way you feel about the social studies critical thinking curriculum. There are no right or wrong answers. Please answer what first comes to your mind. Comments are welcome.

(1) = Clearly Disagree (2) = Slightly Disagree (3) = Agree
(4) = Strongly Agree (5) = Clearly Agree

	1	2	3	4	5	
1.	__	__	__	__	__	You feel that the overall effectiveness of the critical thinking continuum as essential to the social studies program.
2.	__	__	__	__	__	You recommend the adoption of the social studies critical thinking continuum to be incorporated with the county middle school social studies curriculum.

COMMENTS:

APPENDIX E

PRINCIPAL'S SURVEY

PRINCIPAL'S SURVEY

DIRECTIONS: This survey is designed to measure the way you feel about the social studies critical thinking curriculum. There are no right or wrong answers. Please answer what first comes to your mind. Comments are welcome.

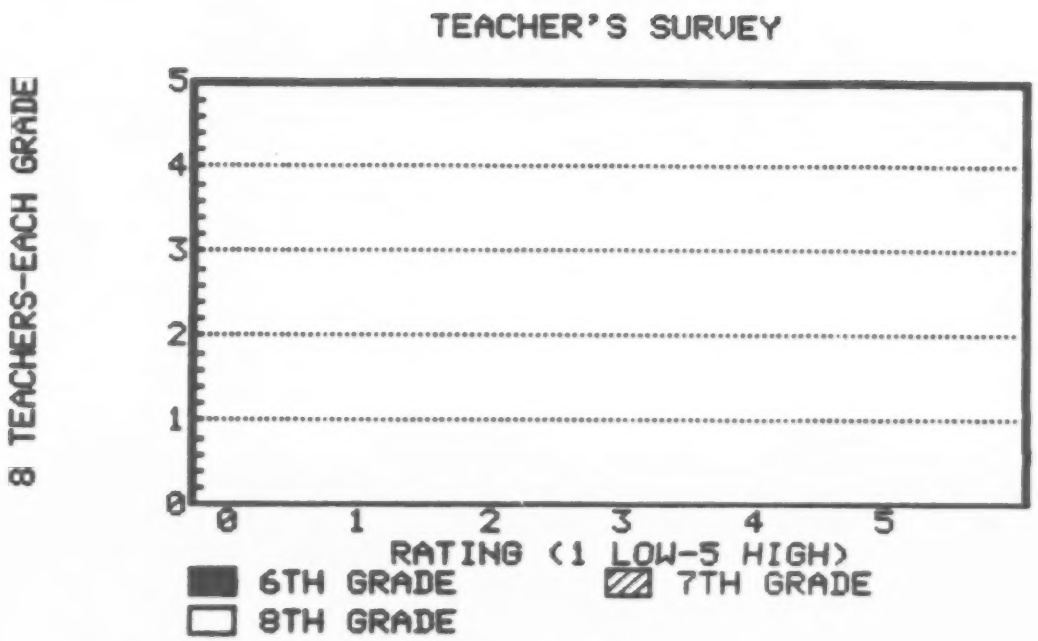
(1) = Clearly Disagree (2) = Slightly Disagree (3) = Agree
(4) = Strongly Agree (5) = Clearly Agree

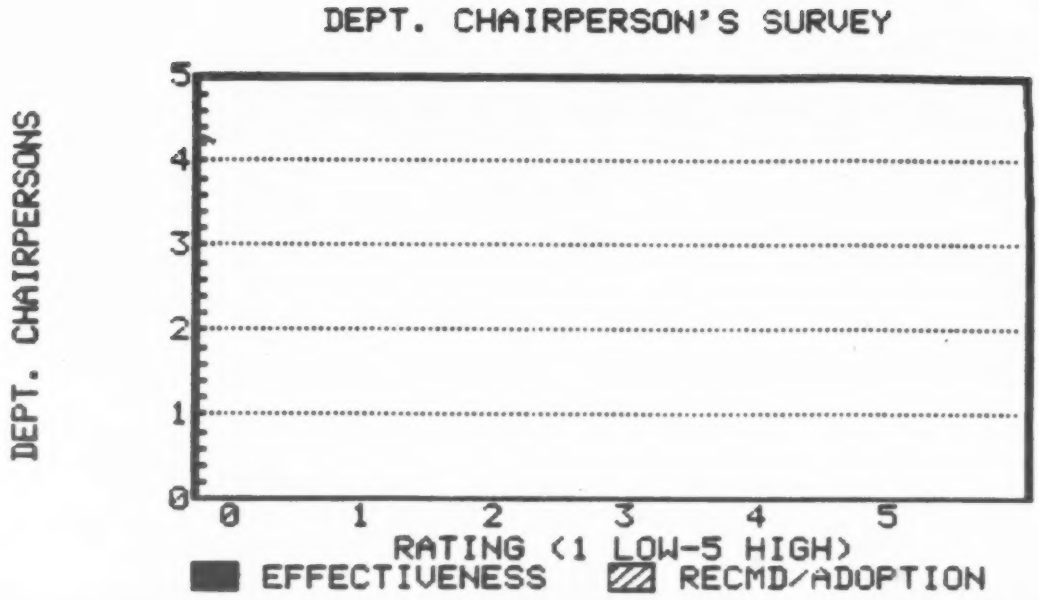
	1	2	3	4	5	
1.	__	__	__	__	__	You feel that the social studies critical thinking continuum has been effective in your school.
2.	__	__	__	__	__	You feel that the social studies critical thinking continuum should be expanded to serve all of the middle schools in the district.
3.	__	__	__	__	__	You would like more staff development programs, related to critical thinking, offered to your teachers.

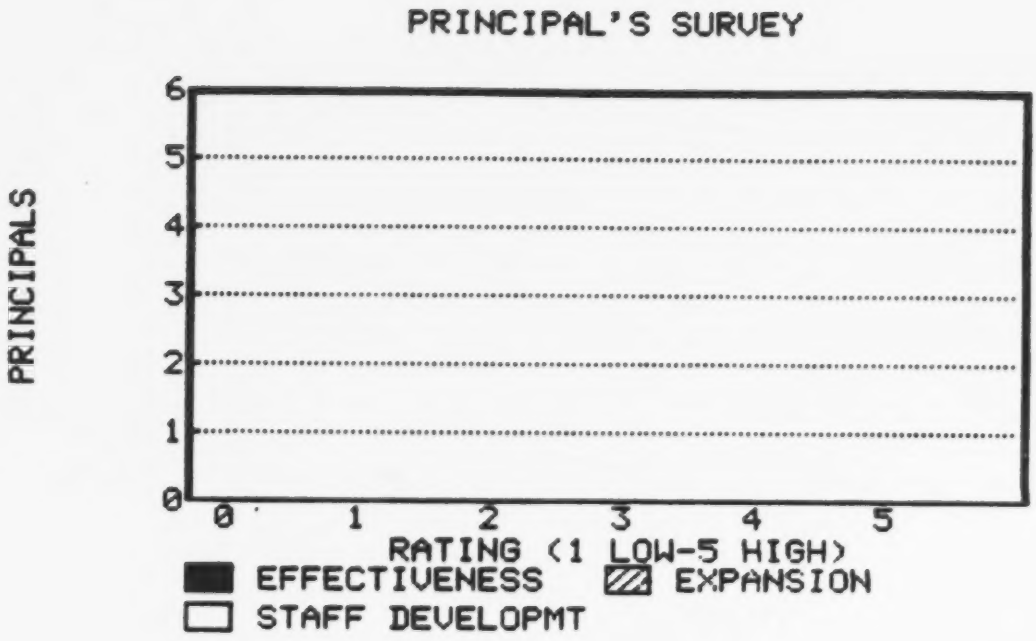
COMMENTS:

APPENDIX F

TEACHER'S SURVEY RESPONSE GRAPH
SOCIAL STUDIES DEPARTMENT CHAIRPERSON'S
SURVEY RESPONSE GRAPH
PRINCIPAL'S SURVEY RESPONSE GRAPH


TEACHER'S SURVEY
8 TEACHERS-EACH GRADE
5
4
3
2
1
0
0
1
2
3
4
5
RATING (1 LOW-5 HIGH)
6TH GRADE
7TH GRADE
8TH GRADE


DEPT. CHAIRPERSON'S SURVEY
DEPT. CHAIRPERSONS
5
4
3
2
1
0
0
1
2
3
4
5
RATING (1 LOW-5 HIGH)
EFFECTIVENESS
RECMD/ADOPTION


PRINCIPAL'S SURVEY
PRINCIPALS
6
5
4
3
2
1
0
0
1
2
3
4
5
RATING (1 LOW-5 HIGH)
EFFECTIVENESS
EXPANSION
STAFF DEVELOPMT

APPENDIX G

SAMPLING OF PRETEST-POSTTEST CONTENT
RELATED QUESTIONNAIRE WITH KEY

Note: Pretest-posttest prepared by writer for practicum use and implementation.

DIRECTIONS: Use the map below to answer the questions.

9. Which city is southeast of Orlando?

F. Gainesville
G. Jacksonville
H. West Palm Beach
I. Tampa

10. Which city is southwest of Miami?

A. Key West
B. Orlando
C. Tallahassee
D. Tampa

11. Which city is southwest of Orlando?

A. Gainesville
B. Jacksonville
C. Miami
D. Tampa

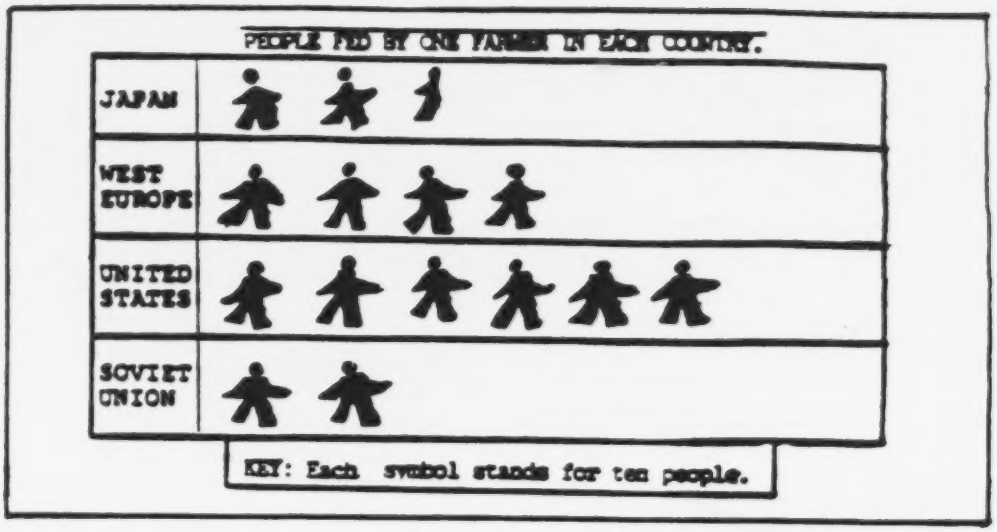
12. Which city is northwest of Gainesville?

A. Jacksonville
B. Miami
C. Orlando
D. Tallahassee

13. Which city is east of Tallahassee?

A. Key West
B. Pensacola
C. Jacksonville
D. Tampa

DIRECTIONS: Use the pictograph below to answer questions.



42. How many people can a farmer in West Europe feed?

A. Ten
B. Twenty
C. Thirty
D. Forty

43. How many more people does a farmer in Japan feed than one in the Soviet Union?

A. One
B. Five
C. Ten
D. Fifteen

44. How many fewer people are fed by a farmer in West Europe than in the United States?

A. Two
B. Four
C. Twenty
D. Forty

45. What does this pictograph tell you about farming in the United States?

A. More fertilizer is used in the United States than other countries to make crops grow.
B. Plows are used to plant the crops.
C. The United States has more modern machinery than the Soviet Union.
D. Agricultural production is higher than in any of the other countries.

SOON

DIRECTIONS: Read each paragraph and answer the question.

84.

During the hurricane season it is important for people in Florida to listen regularly to weather reports. Because the state is a narrow peninsula, no town or city is far enough from the Atlantic Ocean or the Gulf of Mexico to be safe from hurricanes. Cities in all parts of the state have suffered severe water or wind damage from hurricanes.

Which statement best expresses the main idea?

A. Hurricanes can be dangerous to Floridians.
B. Florida is a narrow peninsula.
C. No town or city is far from the Atlantic Ocean.
D. Cities in all parts of the state have been damaged.

85.

I always laugh when I see a kangaroo. These strange Australian animals seem to have springs on their feet. I have to smile when I see one bouncing along like someone on a pogo stick. Then, when the baby kangaroo sticks his head out of his mother's pouch, I laugh until my sides hurt.

Which statement best expresses the main idea?

A. Baby kangaroos ride in their mother's pouch.
B. The writer thinks kangaroos are funny animals.
C. Kangaroos bounce like someone on a pogo stick.
D. Kangaroos live in Australia.

86.

Betty worked as a waitress in the restaurant of a bus station. One evening, three strangers came in and told her to put all the money into a bag. Betty firmly refused. When one of the robbers started to hit her, she quickly punched him in the stomach. The other robbers were so shocked that they ran from the restaurant. Her unexpected courage had ruined the robbers' plans!

Which statement best expresses the main idea?

A. Betty prevented a robbery.
B. Betty is a waitress.
C. If you are a waitress, you will be robbed.
D. Never work in a bus station if you are a woman.

87.

I usually like to go roller skating, but on Friday nights the rink is too crowded. People are always bumping into other people. On a few occasions I have been knocked down when I did not move fast enough. The rink somehow seems smaller on Fridays. Maybe that's because I feel so hemmed in by people.

Which statement best expresses the main idea?

A. I do not like to be knocked down.
B. I do not like to roller skate.
C. I don't like to go roller skating on Friday nights.
D. They make the roller skating rink smaller on Fridays.

GO ON

PRETEST/POSTTEST CONTENT RELATED QUESTIONNAIRE

KEY

1. B	21. C	41. C	61. B	81. C
2. D	22. C	42. D	62. D	82. C
3. A	23. D	43. B	63. B	83. D
4. B	24. C	44. C	64. D	84. A
5. C	25. B	45. D	65. B	85. B
6. B	26. A	46. B	66. A	86. A
7. D	27. C	47. A	67. B	87. C
8. C	28. B	48. B	68. B	88. D
9. C	29. D	49. C	69. C	89. A
10. A	30. C	50. C	70. B	90. A
11. D	31. B	51. C	71. A	91. B
12. D	32. A	52. B	72. B	92. D
13. C	33. C	53. A	73. C	93. A
14. A	34. C	54. B	74. D	94. A
15. B	35. B	55. D	75. D	95. A
16. D	36. D	56. C	76. C	96. B
17. C	37. A	57. C	77. D	97. B
18. B	38. B	58. B	78. D	98. C
19. D	39. A	59. B	79. C	99. A
20. D	40. B	60. B	80. C	100. D

APPENDIX H

CRITICAL THINKING SKILLS TALLY SHEET

CRITICAL THINKING SKILLS TALLY SHEET

School:_____ Grade:_____ Subject:_____

Student Number	Pretest	Posttest	Difference

APPENDIX I

DISTRIBUTION OF SCORE DIFFERENTIALS

DISTRIBUTION OF SCORE DIFFERENTIALS

PRETEST-POSTTEST SCORE DIFFERENCES	NUMBER OF STUDENTS BY GRADE 6	7	8	COMBINED TOTAL
0-9				
10-19				
20-29				
30-39				
40-49				
50-59				
60-69				
70-79				
80-89				
90-99				
100				
SUB-TOTALS				
POSTTEST SCORE of 100				
TOTALS				

APPENDIX J

OBJECTIVE-INSTRUMENT-CRITERIA FOR SUCCESS CHART

OBJECTIVE-INSTRUMENT-CRITERIA FOR SUCCESS CHART

OBJECTIVE:

No less than a rating of 3 on a 5 point scale will be given by 17 out of 24 teachers, indicating that the critical thinking continuum was effective in helping them to meet their program objectives; that student response to the critical thinking continuum was favorable; and that the continuum was appropriate for their subject and grade level.

INSTRUMENT:

Teacher's Survey (see Appendix C).

CRITERIA FOR SUCCESS:

The standard of achievement that will be considered acceptable for this objective is that no less that a rating of 3, on a 5 point scale (1 low - 5 high), will be given by 17 out of 24 teachers.

OBJECTIVE:

No less than a rating of 3 on a 5 point scale will be given by 6 out of 8 Social Studies Department Chairpersons, indicating that the overall effectiveness of the critical thinking continuum as essential to the social studies program; and will recommend the adoption of the continuum to be incorporated with the county middle school social studies curriculum.

INSTRUMENT:

Social Studies Department Chairperson's Survey (see Appendix D).

CRITERIA FOR SUCCESS:

The standard of achievement that will be considered acceptable for this objective is that no less than a rating of 3, on a 5 point scale (1 low - 5 high), will be given by 6 out of 8 social studies department chairpersons.

OBJECTIVE:

No less than a rating of 3 on a 5 point scale will be given by 6 out of 8 principals of the pilot schools, indicating that the critical thinking continuum was effective in their schools; will encourage the expansion of the continuum to include all middle schools; and will request that more staff development programs related to critical thinking be offered.

INSTRUMENT:

Principal's Survey (see Appendix E).

CRITERIA FOR SUCCESS:

The standard of achievement that will be considered acceptable for this objective is that no less than a rating of 3, on a 5 point scale (1 low - 5 high), will be given by 6 out of 8 principals.

OBJECTIVE:

That 60% of 3,600 participating students will demonstrate an improvement of a minimum of 20 points, or attain a score of 100, when pretest and posttest scores on abilities to apply specific thinking skills are compared on a content related questionnaire.

INSTRUMENT:

A content related questionnaire, containing 100 items, and designed to elicit specific thinking skills (see Appendix F).

CRITERIA FOR SUCCESS:

The standard of achievement that will be considered acceptable for this objective is that no less than an improvement of 20 points, or the attainment of a score of 100, by 60% of 3,600 participating students will be experienced.

APPENDIX K

SAMPLING OF LESSON PLANS FOR
GRADES 6, 7, AND 8

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: World Cultures - Grade 6

COURSE NUMBER: 2109010

STRAND NUMBER 1

CONCEPT

THE STUDENT WILL BE ABLE TO

Understand how contemporary civilizations have been influenced by events and contributions of past civilizations.

OBJECTIVE NUMBER 1.02

THE STUDENT WILL

Cite evidence to show how culture is transmitted within a society.

LEVEL OF BLOOM'S TAXONOMY

Level	Action Verbs
Knowledge	Find, Identify, Label, Recall, Write
Comprehension	Classify, Determine, Find, Interpret, Retell
Application	Classify, Determine, Find, Interpret, Relate
Synthesis	Categorize, Document, Summarize, Transmit, Write
Evaluation	Choose, Defend, Interpret, Summarize, Verify

SUGGESTED TECHNIQUES

1. Have the students define, explain and understand the meaning of the word "culture."
2. Either on the chalkboard or reproduced copies, provide the students with an investigation search form. The theme of the search form is directed to showing how culture is transmitted within a society. The name of the society is placed at the top of the form. The form is divided into two columns. The first column is titled Culture, and the second is titled Evidence.
3. The objective is to require the student to cite the culture, and record evidence in the appropriate columns. The textbook is used as the source for information.
4. Have students contribute to an oral review of their findings. Students will complete the activity by writing a summary of their investigation, and an explanation of what they had learned.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: World Cultures - Grade 6

COURSE NUMBER: 2109010

STRAND NUMBER 6

CONCEPT

THE STUDENT WILL BE ABLE TO

Identify major changes in societies and determine the causes and effects of these changes.

OBJECTIVE NUMBER 6.01

THE STUDENT WILL

Recognize the causes of major historical changes, (e.g., Crusades, Discovery of the New World, Industrial Revolution, Reformation).

LEVEL OF BLOOM'S TAXONOMY

LEVEL	ACTION VERBS
Knowledge	Choose, Identify, Recognize, Select, Write
Comprehension	Classify, Compare, Contrast, Infer, Recognize, Summarize
Application	Choose, Classify, Graph, Organize, Relate
Analysis	Analyze, Classify, Compare, Diagram, Recognize
Synthesis	Blend, Document, Organize, Predict, Relate

SUGGESTED TECHNIQUES

1. Students will prepare a chart on the causes of the historical change being studied.
2. The chart will be titled "Causes of the (name of the historical change)." The chart will be divided into two columns titled "Event," and "Why is it a Cause" respectively.
3. From the data collected and the student's analysis of the events, the students will prepare a written summary of their findings and an explanation about how they recognized this data as causes.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: Geography
Grade 7

COURSE NUMBER: 2103010

STRAND NUMBER 1

CONCEPT

THE STUDENT WILL BE ABLE TO

Demonstrate knowledge and use of maps, globes, charts, graphs, and other tools of Geography.

OBJECTIVE NUMBER 1.02

THE STUDENT WILL

Recognize distance, scale, map symbols, and the relationship of maps and globes.

LEVEL OF BLOOM'S TAXONOMY

Level	Action Verbs
Knowledge	Define, Identify, Recall, Recognize, Record, Write
Comprehension	Demonstrate, Define, Interpret, Recognize, Summarize, Trace
Application	Collect Information, Demonstrate, Interpret, Record
Analysis	Discriminate, Recognize, Relate, Select
Synthesis	Categorize, Explain, Relate, Summarize, Write

SUGGESTED TECHNIQUES

1. Develop the concept of a model (e.g., airplanes, cars, dolls, and the globe).
2. Introduce the term "scale." Let students practice measuring items to a scale and recording their findings in a log (e.g., a desk, 1 inch equals 1 foot, etc.). Have the students practice this skill on a map using the map scale. Tell them they are to route a trip. Give them the names of two cities to determine the shortest route between them. Distances should be recorded.
3. Have the students use the key to identify the symbols found on the chosen route. These are to be logged also.
4. Students are to record the direction that they will travel and any change of direction.
5. Have students determine the relationship of maps and globes. The students will then write a summary of what they had learned.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: Geography
Grade 7

COURSE NUMBER: 2103010

STRAND NUMBER 2

CONCEPT

THE STUDENT WILL BE ABLE TO

Locate and describe the geographic features, and political divisions of the major regions of the world.

OBJECTIVE NUMBER 2.01

THE STUDENT WILL

Locate the major land masses (Europe, Asia, Africa, North America, South America, Australia, and Antarctica and bodies of water (Pacific, Atlantic, Indian, and Arctic Oceans).

LEVEL OF BLOOM'S TAXONOMY

LEVEL	ACTION VERBS
Knowledge	Choose, Distinguish, Find, Match, Recognize
Comprehension	Distinguish, Find, Recognize, Show, Trace (on map or chart)
Application	Distinguish Between, Find, Locate, Select, Show
Analysis	Determine, Distinguish, Identify, Recognize, Select
Evaluation	Choose, Determine, Distinguish, Judge, Select

SUGGESTED TECHNIQUES

1. The teacher will provide the students with an appropriate map outline and a list of major land masses and bodies of water.
2. The students will use the textbook as a research tool. Use of the table of contents and the index should be encouraged.
3. Students will indicate on the map outline the locations of the land masses and bodies of water shown on the research list. As the students identify the items they should record the latitude and longitude along the borders of the outline.
4. After the map outlines have been completed the teacher will provide the students with a listing of latitudes and longitudes. The students will use their completed maps to locate the areas designated by the teacher list. The students will record the name of the land mass or body of water next to the correct coordinates as shown on the list.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: United States History - Grade 8

COURSE NUMBER: 2100010

STRAND NUMBER 1

CONCEPT

THE STUDENT WILL BE ABLE TO

Understand the relationships between past and present.

OBJECTIVE NUMBER 1.01

THE STUDENT WILL

Explain the political, social, or economic factors common to past and present exploration.

LEVEL OF BLOOM'S TAXONOMY

Level	Action Verbs
Knowledge	Define, Identify, Recall
Comprehension	Compare, Describe, Explain
Synthesis	Compile, Explain, Summarize

SUGGESTED TECHNIQUES

1. Put a chart on the chalkboard. Title it "Past Exploration."
2. Divide it into three columns. Title each column, "Political Factors," "Social Factors," and Economic Factors," respectively.
3. Put a second chart on the chalkboard and title it "Present Exploration." Divide it into three columns and label each with the same titles as the first chart.
4. Have students copy the chart formats onto their notebook paper.
5. Have students identify past and present explorations.
6. Using the textbook and current events materials have students research and investigate the contributing factors. Record their responses on the chalkboard as they record them in their notebooks.
7. Discuss the factors to determine which ones are common to both charts. Have students compare them to make this decision.
8. Students will prepare a written summary of those factors common to past and present explorations.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

LESSON PLAN

SUBJECT AREA: Social Studies

COURSE TITLE: United States History - Grade 8

COURSE NUMBER: 2100010

STRAND NUMBER 6

CONCEPT

THE STUDENT WILL BE ABLE TO

Explain the significance of the contributions of various ethnic and cultural groups to the development of the pluralistic society of the United States.

OBJECTIVE NUMBER 6.02

THE STUDENT WILL

Give examples of contributions made by various racial, ethnic, or cultural groups to the unique pluralistic society of the United States.

LEVEL OF BLOOM'S TAXONOMY

LEVEL	ACTION VERBS
KNOWLEDGE	Define, Identify, Recall, Recognize, Write
COMPREHENSION	Classify, Define, Explain, Recognize, Summarize
APPLICATION	Collect Information, Find, Graph, Interpret, Prepare
ANALYSIS	Classify, Diagram, Group, Recognize, Select
SYNTHESIS	Arrange, Document, Explain, Relate, Summarize

SUGGESTED TECHNIQUES

1. Given a list of racial, ethnic or cultural groups, the students will research their textbooks to find information about the group's contributions to the unique pluralistic society of the United States.
2. Students will be encouraged to use the index and table of contents in their textbooks for the research process.
3. Students will record their data on a chart outline provided by the teacher. The chart will be titled "Contributions to the Society of the United States." It will be divided into three columns. The first column will be titled "Racial, Ethnic, or Cultural Group." The second column will be titled "Contribution" and the third column will be titled "Reference Page Number." A horizontal line is to be drawn to separate the groups and data from one another.
4. Students will use the data collected and recorded on their charts to prepare a written interpretive summary of their findings.

PROCEDURES

PHASE I

PREPARATION STAGE

THE STUDENT WILL THINK ABOUT

1. What is supposed to be accomplished.
2. How is it supposed to be done.
3. What is required to experience success.
4. Being familiar with materials and graphic aids.
5. What is already known about the topic.
6. Setting a purpose for study through outlines, predictions, categorizing, and organizing ideas.

TEACHING STRATEGIES

PHASE II

PROCESSING INFORMATION

THE STUDENT WILL THINK ABOUT

1. Modifying and clarifying ideas.
2. Comparing new information with prior knowledge.
3. The important concepts and vocabulary of the topic.
4. Asking new questions and clarifying information.
5. Summarizing the topic.
6. Expressing new knowledge.
7. Evaluating new ideas.

TEACHING STRATEGIES

PHASE III

APPLICATION AND EVALUATION

THE STUDENT WILL THINK ABOUT

1. Applying and evaluating new knowledge.
2. Demonstrating skills to organize, categorize, summarize, and analyze.
3. Transferring skills to new situations.
4. What has been achieved.
5. Comparing new learning to prior knowledge.

TEACHING STRATEGIES

APPENDIX L

SOCIAL STUDIES CRITICAL THINKING TEACHING LOG

SOCIAL STUDIES CRITICAL THINKING
TEACHING LOG

Please try to use two lesson plans per week that are appropriate to the content under study in your class. Your cooperation in returning this form together with your program evaluation at the end of the school year would be appreciated.

Teacher:_____ Grade:_____ Subj:_____

WEEK NR.	OBJECTIVE NR.	DATE	COMMENTS
1			
1			
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WEEK NR.	OBJECTIVE NR.	DATE	COMMENTS
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WEEK NR.	OBJECTIVE NR.	DATE	COMMENTS
18			
18			